

**UTILITY PATENT APPLICATION**

**of**

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**“A Bottle-Cap Having An Internal  
Compartment”**

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# A BOTTLE-CAP HAVING AN INTERNAL COMPARTMENT

## FIELD OF THE INVENTION

This invention relates in general to bottle-cap construction but more particularly pertains to a bottle-cap having an internal compartment for concealment and/or storage of an item therein. For example, the user may be desirous of concealing or storing medications, vitamins, a key, money, liquid, or any other item of user choice within the cap housing. Also, the bottle cap may be constructed so as to be substantially universal in shape and size and thus usable with any standard type bottleneck currently available in today's market place.

## BACKGROUND OF THE INVENTION

In today's society it has become most popular to carry a refreshment of some type such as bottled water, juice, energy drinks and the like. This is especially important when engaging in strenuous physical activities such as jogging, walking, bicycling, etc., so as to reduce possible dehydration. As a result, many individuals have some type of a container having refreshment therein and which is consumed intermittently throughout most of their day, respectively. Therefore, it is contended that it would be most convenient and appealing to provide a novel internal compartment within the bottle-cap that can be used for either storage purposes or concealment of an item and has not yet heretofore been taught.

After a through investigation of the known prior art, it is contended that "pill bottle-caps" and the like have been proposed wherein storage of pills are possible. Examples of such pill bottle-caps are taught within US patents #6,338,425, #6,302,295, and #6,283,331. However, none of these address, suggest, or imply that such a pill

bottle- cap could be possibly used in combination with a pre-existing bottleneck and/or pre-existing bottle-cap typically associated with beverage containers, such as taught within the present application.

## SUMMARY OF THE INVENTION

It is therefore a primary object of the present invention to provide a unique bottle-cap that includes an internal compartment for either storage or concealment of an item when positioned therein.

It is another object of the present invention to provide a bottle-cap that is of simple construction, is cost effective to manufacture and which may be produced from any suitable materials of engineering choice. Also as an example, the bottle-cap(s) may be manufactured by a plastic mold injection or the like if so desired.

Yet a further object of the present invention is to provide a bottle-cap that is universal in shape and size and is thus compatible with most standard types of bottlenecks such as typically associated with today's beverage containers. However as an additional option, if the bottle-cap does not fit a particular sized bottle, the invention may be sold with an adaptor member so as to allow the user to easily modify the cap size according to their needs.

Still another object of the present invention is to provide a bottle-cap that may be made from a transparent material so as to allow the user to visually see the contents therein if so desired. Or the bottle-cap may be made from non-transparent material so as to conceal the contents therein in a camouflaged manner, respectively. In either case the material of choice is to be determined by engineering preferences and/or end user needs.

A further object of the present invention is to provide a bottle-cap that may be used specifically for storage of daily medications and includes a method for controlled delivery of the daily medications. For example, the bottle-caps of the present invention may be sold as a medicinal kit wherein seven caps are sold in combination, and each cap being differently color-coded and/or marked with indicia so as to be designated for use on a specific day of the week. Whereby, the user can pre-fill each of the caps with their required daily medications so as to have a full weeks supply on hand in a controlled regulated manner. Thus, the user simply attaches the bottle-cap that is designated for that day onto the beverage container of their choice and as the medications are needed they can easily be removed and taken with the beverage throughout the day as required.

Also another object of the present invention is to provide a bottle-cap having an internal storage compartment that may be used for novelty purposes. For example, the bottle-cap may be designed for use with children. With this in mind, the bottle-cap may be ornamental in design so as to be of a shape that a child would identify with, such as it may be in the form of a cartoon character, or the like. In this embodiment the contents may be vitamins or medications and due to the cartoon character, this would encourage children to take their vitamins and/or medications resulting in fun for the child. Or perhaps the bottle-cap would be sold with an attached beverage bottle and the contents could be a toy or some type of prize. As a result such bottle-caps could be collectible and children would like to collect multiples of the bottle-cap for fun.

Yet another use for the present bottle-cap may be to include some type of liquor within the compartment and the bottle-cap could be sold separately or with an attached

beverage container containing water, juice, carbonated liquid etc. Of course this embodiment is strictly designed for adult use and restrictions would apply.

Still a further object of the present invention is to provide a bottle-cap having an internal storage compartment that is not only suitable for storage purposes but also protects the contents therein from outside elements. Thus, the beverage container may be stored in an ice chest or the like without worry that the contents within the cap will be subjected to moisture, etc.

Other objects and advantages will be seen when taken into consideration with the following specification and drawings.

#### BRIEF DESCRIPTION OF THE DRAWINGS

Figure 1 is substantially a plan overview of the preferred embodiment for the present invention.

Figure 2 is substantially a plan overview of a second embodiment for the present invention.

Figure 3 is substantially a plan overview of a third embodiment for the present invention.

Figure 4 substantially represents an overview for an adapter that allows the bottle-cap of the present invention to be adaptable so as to fit different sized beverage bottles.

Figure 5 is substantially yet another overview for a second embodiment for a different type of adapter.

#### DETAILED DESCRIPTION OF THE DRAWINGS

Referring now in detail to drawings wherein like characters refer to like elements throughout the various views. The present invention is substantially a novel bottle-cap

that allows a user to store an object of choice therein. The general overall construction for the present bottle-cap substantially consists of a housing having an upper section (10) and a lower section (12), respectively. The lower section (12) having attachment means (later described) for attaching the lower section onto an externally threaded bottleneck (14) of a beverage container (16). It is to be noted the beverage container (16) is pre-existing and can be of any standard type and/or size of user choice, thus it is depicted in ghost lines accordingly. Upper section (10) and lower section (12) being attachable together by suitable attachment means (later described) and the upper section (10) and the lower section (12) in combination provide a protective outer covering for an internal hollow concealed storage compartment (18) that is located within the housing. These are the major components and the following specification further defines possible variations thereof and their associated embodiments.

Referring now to figure 1, which represents a first embodiment for the present invention. As taught therein, the noted attachment means for attaching lower section (12) onto the externally threaded bottleneck (14) of the beverage container (16) is now further defined. Wherein, lower section (12) is depicted having a base portion which forms a first downwardly facing internally threaded receptacle (12-A) with the internal threads (20) being partially depicted within a cutout section. As can be seen and understood, the first downwardly facing internally threaded receptacle (12-A) has a mating relationship with externally threaded bottleneck (14) of beverage container (16) when each are threadably interconnected together.

The base portion further having an upwardly facing hollow neck member (12-B) that substantially forms the noted internal hollow concealed storage compartment (18)

therein. As can be seen the internal hollow concealed storage compartment (18) is depicted in ghost lines accordingly as it is internal. As can be further seen in figure 1, upwardly facing hollow neck member (12-B) has external threads (22). Upper section (10) substantially forms a second downwardly facing internally threaded receptacle (12-C) with the internal threads (24) being partially depicted within a cutout section. Whereby, it can be seen that second downwardly facing internally threaded receptacle (12-C) is of a shape and size to threadably receive and mate with upwardly facing hollow neck member (22) therein when each are threadably interconnected together. Whereby a user can easily attach the present bottle-cap onto a pre-existing bottleneck (14) of a pre-existing beverage container (16). Thus, the user may easily unscrew the upper section (10) and retrieve the contents therein in an easy manner and replace upper section thereon until further needed.

Referring now in detail to a second embodiment for the present invention as depicted in figure 2. Wherein, housing (26) is substantially internally partitioned forming the lower section (26-A) and the upper section (26-B) and the housing (26) may be integrally formed at the point of manufacture, such as by "plastic mold-injection" this is most advantageous when considering manufacturing costs, etc. Within this embodiment, lower section (26-A) of housing (26) forms a first downwardly facing internally threaded receptacle (28) with the internal threads (30) being partially depicted within a cutout section. As can be seen and understood, the first downwardly facing internally threaded receptacle (28) has a mating relationship with externally threaded bottleneck (14) of beverage container (16) when each are threadably interconnected together.

As further depicted in figure 2, upper section (26-B) includes the hollow concealed storage compartment (18) formed therein and in this embodiment includes some type of suitable open/closure means of engineering choice. For example, one type of suitable open/closure means is to include an access opening (32) that allows access into the compartment (18) with the open/closure means being in the form of removable lid member (34) that is frictionally retained within a recess (36). This is only exemplary for one type of open/closure means thus the invention is not to be limited thereto.

Referring now to figure 3, wherein we provide a third embodiment for the present invention. As depicted therein, the general structure is similar to figures 1 & 2, as it still is formed from a housing (38) having an upper section (38-A) and a lower section (38-B) and further provides hollow concealed storage compartment (18) and also the noted open/closure means (32, 34 & 36). However, this embodiment is slightly different, wherein as previously noted the upper section and lower sections (38-A & 38-B) now include releasable attachment means consisting of the lower section (38-B) of housing (38) includes at least a first and a second indent (40) and upper section (38-A) includes at least a first and a second downwardly extending protrusion (42). Whereby, it can be seen that the first indent is of a shape and size to frictionally receive first downwardly extending protrusion therein and second indent is of a shape and size to frictionally receive the second downwardly extending protrusion therein.

It is to be noted the above described third embodiment provides unusual results not achieved within the first two embodiments. Within this arrangement, the bottle-cap can be used in the manner relative to "the method of use" as previously addressed within the objects. Whereby, a user may use the present bottle-cap for regulated delivery of



medication, such as on a weekly basis. In use with embodiment, the product would be sold as a medicinal kit having various bottle-caps constructed in the manner as taught herein and each of the caps would either be color-coded and/or marked with indicia pertaining to various days of week. Whereby, the user can pre-fill each of the caps and use them on a daily basis in a regulated manner. This is also advantageous, as only one lower section (38-B) would need to be provided, as the different upper sections (38-A) would be interchangeable with the lower section (38-B) and this is most cost effective.

With further reference to the embodiment of figure 3, it is to be noted the attachment means for attaching lower section (38-B) onto externally threaded bottleneck (14) of beverage container (16) may be different than the previous attachment means as described. For example, if so desired the first downwardly facing internal receptacle (44) may be so constructed without internal threads and be of a shape and size to be frictionally positioned onto the actual pre-existing bottle-cap (46) such as typically attached onto the pre-existing beverage container (16) when purchased. It is to be noted the pre-existing bottle-cap (46) is only depicted in figure 3. This would prove to be further advantageous as the internal threads (28) would be eliminated. It is to be further understood this type of attachment means could also easily be incorporated into the embodiments 1 & 2 if so desired. Whereby, in each embodiment the present invention would be attached onto the pre-existing bottle-cap (46) itself rather than attached onto the actual threaded bottleneck (14).

Referring now to figure 4, wherein we depict a first embodiment for an accessory adapter (48). As previously stated, the present invention may be manufactured so as to be universal in size and shape, or the bottle-caps can be manufactured in various sizes of

engineering choice. However, for additional size variations and/or engineering options the bottle-cap of the present invention may be sold with an accessory adapter (48) that allows the end user to attach the bottle-cap onto any pre-existing type of threaded bottleneck of their liking.

The first accessory adapter (48) substantially consists of a base member (52) having internal threads (54) that are depicted through a cutout therein and which are of a shape and size to be threadably engaged onto a pre-existing bottleneck (14) of a beverage container (16). The base member (52) includes an upraised externally threaded protrusion (56) that is of a shape and size to be threadably engaged within the first downwardly facing internally threaded receptacle (21) of base portion (12-A). Whereby, as can be seen this first accessory adapter (48) can be used for varying the size of the lower section (12-A) when engaged therein. However, the actual size of the first downwardly facing internally threaded receptacle (58) is determined or defined by the internal circumference within the base member (52). As a result, the accessory adapter (48) can be easily used for either reducing or enlarging the size of internally threaded receptacle (21). Thus, only one variable sized adapter (48) is depicted herein but other sized adapter are to be inherent and within the scope of the invention.

Referring now in detail to figure 5 wherein we depict yet another embodiment for an accessory adapter (60) that is substantially in the form of a grommet an internal opening (64). Accessory adapter (60) is of a shape and size to be frictionally inserted and retained within a first downwardly facing receptacle (66) formed within lower section (50) of the previously addressed housing. It is to be noted within this embodiment, the first downwardly facing receptacle may be produced without internal threads if so

desired, as depicted herein. As a result, accessory adapter (60) can also be produced without any type of threads and thus forms a flush exterior surface so as to allow for a flush fit for accessory adapter (60) when positioned within first downwardly facing receptacle (66) as depicted herein. As another alternative, if the bottle-cap of the present invention is to be attached onto the actual pre-existing bottle-cap (46) then adapter (60) would not need any threads at all, and this is most cost effective. It can now be understood that different sized accessory adapters (60) would again allow for varying the size of the lower section (50) and thus different sizes are inherent herein and the invention is not to be limited to one particular size or the like.

It is to be further understood each of the embodiments as taught herein may be modified to fit onto either a bottleneck (14) of a beverage container (16) or onto the actual pre-existing bottle-cap (46) of figure 3 & 5, this is simply determined by use of threads or a friction fit depending on the desired end use.

It can now be seen we have herein taught a new and novel type of bottle-cap that includes a concealed internal storage compartment for containment of an item of user choice. The unique bottle-cap can be either removably attached onto either a pre-existing bottle-cap or onto the pre-existing bottleneck of a beverage container, or the like.

It can further be seen we have herein provided a novel bottle-cap that may be used for controlled medicinal use, and which may be sold as a medicinal kit having multiples of the bottle-cap therewith.

Still further the present bottle-cap may be used for novelty purposes and may be formed into a cartoon character or the like that may be appealing for use by children.

Also, the bottle-cap may include a surprise and/or candy therein within the internal compartment and this would prove to be enticing.

Although the invention has been herein shown and described in what is conceived to be the most practical and preferred embodiment, it is recognized that departures may be made there from within the scope and spirit of the invention, which is not to be limited to the details disclosed herein but is to be accorded the full scope of the claims so as to embrace any and all equivalent devices and apparatuses.

Having described our invention, what we claim as new and desire to secure by LETTERS PATENT is: